

# HAPPENINGS at the SAB

*...ensuring a solid technical basis for environmental protection*

Volume E5 Number 7

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## THE SAB WORKING WITH WORKSHOPS

### EDITORIAL

The mission of the SAB is to provide advice to the Administrator and to Congress on the technical underpinnings of Agency positions, in such a way as to make a positive difference in the production and use of science at EPA. At the direction of the Executive Committee, the Board and the Staff are exploring new ways in which this advice can be provided.

In the month of June the SAB, in collaboration with different Agency offices, conducted two "workshops" that demonstrated a new method for gathering and presenting technical advice.

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In the first workshop, the Board, the Office of Research and Development, and the Office of Air and Radiation combined thoughts, resources, and talent to bring together in public session a disparate, but willing, collection of scientists and economists to explore the increasingly important problem of estimating benefits stemming from regulatory actions. An economist's perspective was provided by Dr. Lester Lave (Carnegie-Mellon University) who challenged the group and calling into question some of the fundamental tenants and procedures of traditional risk assessment approaches. Recognized risk assessors (Dr. Bernard Goldstein, Robert Wood Johnson Medical School; Dr. Lawrence Romberg, Gradient Corporation; Dr. Bernard Weiss, University of Rochester) presented three case studies that illustrated different approaches to meeting the needs of economists. The two-day meeting stimulated the group -- sometimes striking nerves, often times casting a spotlight on the differences between the aims of regulatory risk assessment and the needs of benefit/cost analysis, potential new methods for both, and research needs. The Workshop was a successful effort in eliciting SAB advice through the novel approach of joint problem-solving, generating a number of creative ideas to be considered by the Agency. However, it is apparent that more exchange across the "culture gap" between risk assessment and benefits assessment must take place if the potential gains of this "collegial, rolling-up-the-sleeves-together" form of conveying advice in a public session is going to have its maximum long-term impact.

The output of the workshop will be available in written form and on the SAB Website ([www.epa.gov/sab](http://www.epa.gov/sab)) by the end of the summer.

In the second June workshop, the SAB took the initiative to address an interesting social science issue that has immediate and practical applications at EPA; i.e., what can an institution do to accelerate the acceptance and adoption a new innovations (cf., the efforts of the Office of Prevention, Pesticides, & Toxic Substances; Office of Policy, Economics, and Innovation.; and the Office of Water). Working with knowledgeable Agency staff, the SAB enlisted some of the most noted scholars and practitioners in the study of the social process of innovation to address the subject in the context of specific programs at EPA. Again, the output of the workshop will be available in written form and on the SAB Website ([www.epa.gov/sab](http://www.epa.gov/sab)) within the next few weeks.

These emphases on workshops as a mechanism of transferring advice continues in July with the third in a series of workshops aimed at exploring the role of science in some EPA's new, stakeholder-enhanced processes. In the fall another workshop will generate advice on an issue stemming from the Board's Integrated Risk Project; i.e., the question of valuation in environmental decision making.

This may not be the North Pole, but things are busy on the SAB workshop front...where, of course, all OSHA regulations are strictly observed.

Donald G. Barnes, PhD  
Staff Director  
USEPA Science Advisory Board

## TENTATIVE SAB MEETING CALENDAR FOR JULY AND AUGUST

Several of the Federal Advisory Committee Act (FACA) meetings noted below have been announced in the Federal Register (FR), together with additional background information. Readers can automatically receive e-mailed copies of FR Notices by subscribing to the SAB Listserver; see Section Updates below.

If a series of meetings is anticipated, the number of the meeting in the series is indicated in parentheses; e.g., "(#2)".

### JULY



5	Committee: Location: Meeting:  Chair: DFO: Email:	Clean Air and Scientific Committee (CASAC) Ariel Rios Building, Room 6013 Review of Subcommittee Report on PM <sub>2.5</sub> Monitoring Network, Teleconference <i>Dr. Joe Mauderly, Lovelace Respiratory Research Institute</i> <i>Mr. A. Robert Flaak</i> <a href="mailto:flaak.robert@epa.gov">flaak.robert@epa.gov</a>
10-11	Committee: Location: Meeting: Chair: DFO: Email:	Integrated Human Exposure Committee (IHEC) Radisson Hotel, RTP, NC NHEXAS <i>Dr. Henry Anderson, Wisconsin Bureau of Public Health</i> <i>Mr. Samuel Rondberg</i> <a href="mailto:SamuelR717@aol.com">SamuelR717@aol.com</a>
12-13	Committee: Location: Meeting: Chair: DFO:  Email:	Executive Committee (EC) US EPA ERC, RTP, NC Regular Meeting and Science and Stakeholder Involvement <i>Dr. Morton Lippman, New York University</i> <i>Dr. John R. Fowle III</i> <i>Dr. Angela Nugent</i> <a href="mailto:fowle.jack@epa.gov">fowle.jack@epa.gov</a> <a href="mailto:nugent.angela@epa.gov">nugent.angela@epa.gov</a>

25	Committee: Location: Meeting: Chair: DFO: Email:	Ecological Processes and Effects Committee (EPEC) TBD Ecological Report Card, Teleconference <i>Dr. Terry Young, Environmental Defense Fund</i> <i>Ms. Stephanie Sanzone</i> <a href="mailto:sanzone.stephanie@epa.gov">sanzone.stephanie@epa.gov</a>
28	Committee: Location: Meeting:  Chair: DFO: Email:	Clean Air Scientific Advisory Committee (CASAC) Ariel Rios Building, Room 6013 Review of the Subcommittee Report on ORD's Response to Section 6101(e) of the Transportation Equity Act for the 21 <sup>st</sup> Century, Teleconference <i>Dr. Joe Mauderly, Lovelace Respiratory Research Institute</i> <i>Mr. A. Robert Flaak</i> <a href="mailto:flaak.robert@epa.gov">flaak.robert@epa.gov</a>
<hr/> <b>AUGUST</b> <hr/>		
1	Committee: Location: Meeting: Chair: DFO: Email:	Radiation Advisory Committee (RAC) TBD Various Issues, Teleconference <i>Dr. Janet Johnson, Shepherd Miller, Inc.</i> <i>Ms. Melanie Medina-Metzger</i> <a href="mailto:medina-metzger.melanie@epa.gov">medina-metzger.melanie@epa.gov</a>
8-9	Committee: Location: Meeting: Chair: DFO: Email:	Drinking Water Committee (DWC) TBD Candidate Containment List (CCL) Research Strategy <i>Dr. Richard Bull, Battelle Pacific Northwest National Laboratory</i> <i>Mr. Thomas Miller</i> <a href="mailto:miller.tom@epa.gov">miller.tom@epa.gov</a>
14 -15	Committee: Location: Meeting: Chair: DFO: Email:	Environmental Engineering Committee (EEC) Subcommittee TBD Natural Attenuation <i>Mr. Domenico Grasso, Smith College</i> <i>Ms. Kathleen Conway</i> <a href="mailto:conway.kathleen@epa.gov">conway.kathleen@epa.gov</a>



[To View a Tentative 6 Month Calendar Click Here](#)

OR

GO TO THE SAB WEBSITE [www.epa.gov/sab/mtgcal.htm](http://www.epa.gov/sab/mtgcal.htm)

#### GLOSSARY OF ACRONYMS

CASAC	Clean Air Scientific Advisory Committee
COUNCIL	(Council on Clean Air Compliance Analysis
AQMS	Air Quality Modeling Subcommittee
HEES	Health and Ecological Effects Subcommittee
DC	Washington, DC
DFO	Designated Federal Officer (SAB Staff lead)
DWC	Drinking Water Committee
EC	Executive Committee
EEAC	Environmental Economics Advisory Committee
EEC	Environmental Engineering Committee
EHC	Environmental Health Committee
EPEC	Ecological Processes and Effects Committee
IHEC	Integrated Human Exposure Committee
IRP	Integrated Risk Project
RAC	Radiation Advisory Committee
RSAC	Research Strategies Advisory Committee
RTP	Research Triangle Park, NC
SAP	Scientific Advisory Panel (FIFRA) (Not SAB affiliated)
TBA	To Be Announced

#### COMMITTEE ACTIVITIES IN JUNE



**On June 5, the Environmental Engineering Committee (EEC), Subcommittee on the Diffusion and Adoption of Innovations in Environmental Protection (Dr. Hilary Inyang, Acting Chair) held a public teleconference.**

The purpose of the public teleconference was to clarify the charge questions for a public workshop being planned for June 28, 2000 and to identify any

additional background materials that panel members may need to provide advice to the Agency.

#### **On June 5-7, the Drinking Water Committee**

**(DWC)** met in Washington, DC to confer on a number of issues relevant to the EPA drinking water program (elements of the proposed Arsenic Drinking Water Standard and consideration of possible DWC - EPA interactions on Stage 2 of the Microbial/Disinfection Byproducts rule making-- M/DBP2). EPA asked the Committee to consider two aspects of the rule, treatment issues and health issues.

The focus of the health issues was a series of questions concerning: 1) the principal arsenic form causing health effects; 2) implications of natural arsenic exposure through food; and 3) addressing the cardiovascular health end point in infants. In terms of arsenic forms, EPA identified inorganic arsenic as the principal form causing health effects, and the literature indicates that most arsenic in drinking water is inorganic. EPA's MCLG and MCL do not distinguish between arsenate and arsenite. EPA asked for the SAB perspectives on how the agency should consider this in developing its risk assessment. As for food exposure, the NRC estimated the daily inorganic arsenic intake via food by assuming that 10% of the arsenic in seafood is inorganic, and all other foods are 100% inorganic arsenic. NRC noted that these assumptions set an upper bound on the contribution from food, which is about 10 Fg a day for adults. EPA asked if the SAB agreed with the implied NRC perspective that relative source contribution of food should be taken into consideration in the setting of the drinking water standard and how might we consider this and communicate it to the public. In the case of risk to infants, the NRC report was inconclusive about the health risks to the pregnant woman,

developing fetus, infants, lactating women, and children. Given the potential for cardiovascular disease and uncertainty about risks to infants, EPA may issue a health advisory to recommend use of low-arsenic water in preparation of infant formula. EPA asked if this precautionary advice was appropriate given the available information.

The focus on treatment technology and cost issues was on residuals disposal and the decision tree used by EPA to determine community water system response to a changed arsenic MCL. For residuals, EPA identified waste disposal options that might be used for the brines or liquid wastes, sludge and solid wastes that could be generated by drinking water treatment options. They asked if the SAB believes that EPA produced an accurate projection of the likely disposal options for arsenic residuals and the distribution of these options by treatment type; the views of the SAB on the advantages and the limitations of the various waste disposal options; the effect of the SAB views and the SAB views on which options are more likely to be used by small systems and which are more likely to be used by larger ones.

Finally, EPA used a decision tree to identify treatment technologies that will likely be used to treat arsenic in groundwater systems. EPA asked if the SAB agreed with the principal "branches" of the decision tree and the likelihood that these options will be used for systems of various sizes with various source water characteristics; the views of the SAB on EPA's description of the advantages and limitations of these treatment technologies; and the SAB's views on how the advantages and limitations affect the probabilities assigned.

The Committee is drafting its report to the Administrator and intends to deliver it prior to the end of the public comment period in September.

**On June 16, the Executive Committee (EC)** met by publicly accessible conference call to take action on two long-awaited, controversial reports,

dealing with a) data from the :testing human subjects and b) children and cancer.

**ACTION 1:** The Executive Committee approved the Joint SAB/SAP Committee's *"Report on Data from the Testing of Human Subjects"* subject to a) edits referenced in the meeting and b) final review by the following members: Drs. Johnson, Lippmann, Smith, and Young. In addition, Drs. Anderson and Greer will provide input/review to the transmittal letter.

**ACTION 2:** The Executive Committee approved the EC Subcommittee's *"Applicability of the Agency's Cancer Risk Assessment Guidelines to Children"* subject to a) edits referenced in the meeting and b) final approval by the vetters, Drs. Seeker and Greer.

In an associated step, the Chair instructed Dr. Barnes to draft an EC Commentary regarding the experiment of addressing Children's Health Protection Advisory Committee (CHPAC) questions to the Agency in the context of a SAB review. The Commentary should include lessons learned and suggestions for future improvements in the inter-FACA committee process.

**On June 19, the Ecological Processes and Effects Committee (EPEC)** held a public conference call to continue work on their strategic project to develop and apply a framework for reporting on ecological condition. The focus on the discussion was on refinement and definition of essential ecosystem characteristics that should be assessed and reported. The Committee plans to prepare and circulate to the Agency a draft report prior to their meeting in September, at which the Committee will apply the draft framework to several program or project case examples.

**On June 21, the Clean Air Scientific Advisory Committee's (CASAC) Technical Subcommittee on Fine Particle Monitoring** met via teleconference to review the ORD response to Congress on Section 6101(e) of the Transportation Equity Act for the 21st Century. This act

requires that EPA conduct a field study of the ability of the Federal Reference Method (FRM) to differentiate those particles that are larger than 2.5 (micrometers) in diameter, and report the results to Congress. Just prior to releasing the report to Congress, ORD asked that the CASAC Subcommittee conduct a peer review of the draft report. The full CASAC is expected to act on the Subcommittee report at their July 28th Teleconference.

**On June 22-23, the Executive Committee's (EC), Scientific and Technological Achievement Awards (STAA) Subcommittee** met in a closed session to review 102 nominated scientific papers from Agency scientists. This program is administered by ORD and is open to scientists from the entire Agency, including those who are not from ORD. The SAB provides the peer review. EPA authors of selected papers are eligible to split cash awards that range from \$1000 to \$5,000 per nomination. The Subcommittee typically recommends approximately one third of the nominations for an award (Level I, II, III or Honorable Mention). The results of the competition will be announced by ORD.

**On June 22-23, the Science Advisory Board** public workshop with EPA's Office of Air and Radiation and Office of Research and Development to discuss ideas for dose response assessment methods for hazardous air pollutants (HAPs) that are appropriate for use in assessing benefits associated with HAP emission control measures. Such benefits assessment are not only required by statute to support EPA's Report to Congress under Section 812 of the Clean Air Act Amendments, but they are also required as part of the regulatory activities associated with HAPs. The EPA and the SAB sought a wide spectrum of views from economists and human health scientists at the workshop. The product of the meeting will be a report that includes a meeting summary, a white paper prepared by Dr. Lester Lave (Carnegie Mellon), "Economist's Perspective on HAP Benefits Analysis Under Section

812," and white papers prepared by Dr. Bernard Goldstein (Rutgers University) on benzene, by Dr. Lorenz Rhomberg (Gradient Corporation) on perchlorethylene, and by Dr. Bernard Weiss (Rutgers University) on manganese.

**On June 28, the Environmental Engineering Committee's (EEC), Subcommittee on the Diffusion and Adoption of Innovations in Environmental Protection** (Dr. Roger Kasperson, Chair) held a day-long consultative workshop. The purpose of the workshop was to identify how the use of data, theories, and research methods derived from the study of the social process of diffusion and adoption of innovations may improve the adoption of innovative approaches to environmental protection: (a) within EPA; (b) by state, tribal, and local government partners; and (c) by corporate and non-governmental organization partners in environmental protection. EPA program offices requested the advice of the workshop panel members to guide them in developing strategies to encourage adoption of new strategies for environmental protection especially in the areas of watershed protection, pollution prevention and EPA's Multimedia Strategy for Priority Persistent, Bioaccumulative, and Toxic (PBT) Pollutants, and use of social science tools and cultural assessments. At the meeting's close, subcommittee members agreed to develop a commentary to the Agency advising that it might benefit from developing "diffusion plans" for particular innovative approaches to environmental protection that the Agency wishes to have adopted more widely. Such diffusion plans would be able to draw on an established social science literature on the diffusion and adoption of new ideas, technologies and behaviors.



**On June 30, the Executive Committee (EC)** met by publicly accessible conference call to take action on two reports:

**ACTION 1:** The Executive Committee approved the Environmental Economics Advisory Committee's (EEAC) *"Review of the Agency's White Paper on 'Valuing the Benefits of Fatal Cancer Risk Reduction'"*, subject to a) edits referenced in the meeting and in written comments and b) final approval by the vetters, Drs. Morgan and Utell.

**ACTION 2:** The Executive Committee approved the EC Air Toxics Monitoring Strategy Subcommittee's *"Review of the Agency's Draft Air Toxics Monitoring Strategy"*, subject to edits referenced in the meeting and in written comments. There is no need for further review by the EC or vetters.

## SAB REPORTS IN PROGRESS

### **a** PROJECTS SCHEDULED FOR JULY 12-13 EC MEETING

#### EC Subcommittee

- 1) Review of the Scientific and Technological Achievement Awards

#### RAC

- 2) Advisory on Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM)

### **b** PROJECTS DUE FOR LATER EC MEETINGS

#### EEC

- 1) Review of Natural Attenuation

- 2) Commentary on the Measures of Environmental Technology Performance
- 3) Commentary on the Use of Social Sciences to Reduce Barriers to Pollution Prevention

#### EPEC

- 4) Review of Eco-Risk Report Card

#### RAC

- 5) Advisory on GENII Version 2.0

### **c** PROJECTS THAT DO NOT REQUIRE EC APPROVAL

#### CASAC

- 1) Review of the ORD Response to Section 6101(e) of the Transportation Equity Act for the 21<sup>st</sup> Century.

#### CASAC Subcommittee

- 2) Advisory on PM2.5 Monitoring Network

### **d** PROJECTS THAT HAVE RECEIVED EC APPROVAL AND AWAIT COMPLETION

#### EEC

- 1) Commentary on Waste Re-Use

#### EEC Subcommittee

- 2) Review of Environmental Technology Verification

#### EC/IRP/SC

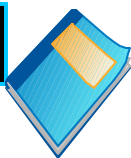
- 3) Review of the IRP Final Overview Report

#### IRP/EEC

- 4) Review of the IRP Risk Reduction Report



## ABSTRACTS OF NEW REPORTS



- a** An SAB Report: Assessment of Risks from Radon in Homes  
EPA-SAB-RAC-00-010

Since radon is the principal contributor to effective dose to members of the general public from background radiation, the U. S. Environmental Protection Agency (EPA) has devoted substantial consideration to quantifying the risks from radon in homes. EPA has commissioned several studies to develop models and risk estimates based on epidemiologic data from underground miners.

The Office of Radiation and Indoor Air (ORIA) derived a risk model for residential exposures based on the models developed by the National Academy of Sciences (NAS) Biological Effects of Ionizing Radiation (BEIR) Committee. The Radiation Advisory Committee (RAC) of the Science Advisory Board (SAB) reviewed the EPA model and the methods of estimating lung cancer risk from exposure to radon indoors. The RAC agrees with ORIA's methodology in general. However, ORIA did not adequately address the uncertainties in the risk estimates, in particular, model uncertainty.

The RAC recommends that ORIA address, at least qualitatively, biologically-based models and models which would result from application of alternate statistical methodology to the miner data. In addition, since a wide variety of users will apply the ORIA point risk estimates to specific situations, ORIA needs to make sure its methodology, assumptions, and the limitations of the model used are transparent. Lack of understanding of the uncertainties in the assessment could result in misuse of the risk estimates.

- b** Science Advisory Board Letter Report on EPA's Draft Proposal for the Groundwater Rule  
EPA-SAB-DWC-LTR-00-005

The Drinking Water Committee (DWC) of EPA's Science Advisory Board (SAB) met on March 13-14, 2000 to review the Agency's draft proposal for its Ground Water Rule. This rule addresses the use of disinfection in ground water and other components of ground water systems to assure public health protection. This review was conducted in a public meeting in Washington, DC. EPA's draft proposal was reviewed by the Committee while it was still under review by the Office of Management and Budget (OMB) and prior to being released for publication in the Federal Register as a proposed rule. As such, the DWC members recognized that specific elements were subject to change during the OMB review.

The Committee reached closure on its conclusions during the March meeting. It was the view of the Committee that: 1) both bacterial and viral indicators should be employed in ground water source monitoring plans; 2) either *E. coli* or enterococci will serve as the bacterial indicator and coliphage should be used as the viral indicator; 3) to save on costs of monitoring, the Agency should develop and validate the use of a common host to simultaneously detect both male-specific and somatic coliphage; 4) the Agency should depend upon monitoring and wellhead protection programs to insure ground water sources are not subject to microbial contamination; and 5) source monitoring should include all ground water systems and some less frequent repeat monitoring that goes beyond the intensive monitoring proposed for the first year. These points are discussed in detail later in this letter.

## COMPUTER NEWS



(1) SAB Website within the EPA Home Page.  
You are invited to visit the SAB Website at URL:  
<http://www.epa.gov/sab>

The site offers such features as

- (a) Full-text reports for FY1994-FY2000
- (b) Background information about the structure, function, and membership of the SAB
- (c) A rolling two-month calendar of SAB meetings
- (d) The most current issue of HAPPENINGS
- (e) Draft/final agendas of upcoming meetings and draft/final minutes of past meetings.
- (f) And much, much...well, maybe a little bit more!

(2) SAB Listserver - By subscribing to the free SAB Listserver, you will automatically receive copies of all Federal Register notices announcing SAB meetings, together with brief descriptions of the topics to be covered at the meetings. These notices will be e-mailed to you within 24-hours of their publication in the Federal Register.

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c) Obtaining copies of SAB reports:

(1) Single hard copies of SAB reports are available for distribution by contacting Mr. Jason Hotten at

Phone: (202) 564-4582

Email: [hotten.jason@epa.gov](mailto:hotten.jason@epa.gov) or by faxing your request to (202) 501-0256

## MEMBERS/CONSULTANTS/STAFF NEWS

### Member/Consultants News



Dr. Roger Kasperson has accepted a four-year appointment as Executive Director of the Stockholm Environment Institute in Sweden. He plans to continue his active participation in the affairs of the SAB Executive Committee.

### Staff News

The following staff members were recognized for their special contributions to the OSAB at an awards presentation in June.



Ms. Kathleen Conway, explored new approaches in facilitating a meeting and in preparing a report. Her risk taking and spirit shortened the overall time of the project.

Mr. A. Robert Flaak, participating in a GSA-led retreat to review proposed changes in the FACA Regulations, thereby representing SAB concerns most effectively.

Dr. Jack Fowle, pitching in to help the CASAC conduct their April 18-19, 2000 meeting and producing a timely report.

Ms. Melanie Medina-Metzger, as the newest DFO, learning quickly, thinking broadly, and helping a new Chair learn the ropes.

Mr. Tom Miller, producing an EEAC report expeditiously and introducing a novel mix of time-saving steps.

Ms. Stephanie Sanzone, alerting the OSAB to proposed changes in the FACA legislation and generating an analysis that illustrated the adverse effects on the SAB.

Ms. Patricia Thomas, developing an improved way to capture information about proposed new members to the board. Her efforts helped the Board staff prepare recommendations for FY 2001 membership more effectively.

d. What the boss said: "He donated his mind to science before he was through using it."

My interpretation of what he meant: "I'm a 'give-give-give' kind of guy."

e. What the boss said: "He's one neuron short of a synapse."

My interpretation of what he meant: "I'm very close."

f. What the boss said: "He's so dense that light bends around him"

My interpretation of what he meant: "I have that...*je ne sais quoi*..that *gravitas*."

BON MOT



The month of June at EPA is when we get our "mid-year" evaluations from our bosses. Here are some that I have received from previous bosses -- certainly not my current one!:)

a. What the boss said: "He must have gotten into the gene pool while the lifeguard wasn't watching."

My interpretation of what he meant: "I'm resourceful"

b. What the boss said: "He's as bright as Point Barrow in December."

My interpretation of what he meant: "I am attune to northern terrestrial ecosystems."

c. What the boss said: "If you stand close enough to him, you can hear the ocean."

My interpretation of what he meant: "I am also attune to marine ecosystems."